

ABSTRACT

The honeycomb structural body according to the present invention is the honeycomb structural body 1, in which a plurality of cells 3, penetrating between a pair of end faces 4, 5 in the direction of the A axis and functioning as fluid passages, is formed and cordierite as a main constituent of cell walls 2 consists, in a chemical composition, of 30~45% by mass of alumina (Al_2O_3), 11~17% by mass of magnesia (MgO) and 42~57% by mass of silica (SiO_2), and the honeycomb structural body of the present invention is possessed of the following physical properties (1) through (5):

- (1) porosity: 55~75%,
- (2) open frontal area: 0.55 or more, less than 0.65,
- (3) mean pore size: 20~30 μm ,
- (4) compression strength in the A axis: 2.0 MPa or more, and
- (5) a ratio of the "compression strength in the A axis / Young's modulus": 1.2×10^{-3} or more.